L Number	Hits	Search Text	DB	Time stamp
1	373	"iso G" or "iso C" or "iso-c" or "iso-G" or isocytadine or isoguanine or isocytosine	USPAT; US-PGPUB; DERWENT	2002/11/29 13:32
1	504	"iso G" or "iso C" or "iso-c" or "iso-G" or isocytidine or isoguanosine or isocytosine or isoguanine	USPAT; US-PGPUB; DERWENT	2002/11/29 15:11
2	8138	("AMV" adj reverse adj transcriptase) or ("t4" adj DNA adj polymerase) or ("T7" adj RNA adj polymerase)	USPAT; US-PGPUB; DERWENT	2002/11/29 15:17
3	18	(("AMV" adj reverse adj transcriptase) or ("t4" adj DNA adj polymerase) or ("T7" adj RNA adj polymerase)) and (non adj standard adj (nucleotide or oligonucleotide))	USPAT; US-PGPUB; DERWENT	2002/11/29 15:16

=> s ((amv reverse transcriptase) or (t4 dna polymerase) or (t7 rna polymerase)) and ((isoG or isoC or "iso-G" or "iso-C" or isocytidine or isocytosine or isoguanosine or isguanine or non standard nucleotide or non standard oligonucleotide))
L1 5 ((AMV REVERSE TRANSCRIPTASE) OR (T4 DNA POLYMERASE) OR (T7 RNA POLYMERASE)) AND ((ISOG OR ISOC OR "ISO-G" OR "ISO-C" OR ISOCYTIDINE OR ISOCYTOSINE OR ISOGUANOSINE OR ISGUANINE OR NON STANDARD NUCLEOTIDE OR NON STANDARD OLIGONUCLEOTIDE))

=> dup rem l1
PROCESSING COMPLETED FOR L1
L2 4 DUP REM L1 (1 DUPLICATE REMOVED)

=> d bib,ab 1-4

L2 ANSWER 1 OF 4 MEDLINE
AN 96382865 MEDLINE
DN 96382865 PubMed ID: 8790729
TI Miscoding properties of isoguanine (2-oxoadenine) studied in an **AMV reverse transcriptase** in vitro system.
AU Bukowska A M; Kusmierek J T
CS Institute of Biochemistry and Biophysics, Polish Academy of Sciences, Warsaw, Poland.
SO ACTA BIOCHIMICA POLONICA, (1996) 43 (1) 247-54.
Journal code: 14520300R. ISSN: 0001-527X.
CY Poland
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199611
ED Entered STN: 19961219
Last Updated on STN: 19961219
Entered Medline: 19961112
AB We have found that isoguanine (iG) can pair with thymine (iG.T) and the non-natural base, 5-methylisocytosine (iG.iCM) during template directed synthesis catalyzed by **AMV reverse transcriptase**. The ratio of these pairings is about 1:10, irrespectively which of the templates, poly(C,iG) or poly(I,iG) is used. This ratio corresponds to the ratio of 2-OH and 2-keto tautomers in monomer in aqueous solution and apparently it is not influenced by the template context. Our results indicate also that formation of the reverse transcriptase catalyzed base pairs between iG and A, G or C can occur only at a low frequency, comparable to the frequency, of mismatches of.(ABSTRACT TRUNCATED)

L2 ANSWER 2 OF 4 MEDLINE DUPLICATE 1
AN 94002037 MEDLINE
DN 94002037 PubMed ID: 7691174
TI Enzymatic recognition of the base pair between **isocytidine** and **isoguanosine**.
AU Switzer C Y; Moroney S E; Benner S A
CS Laboratory for Organic Chemistry, ETH Zurich, Switzerland.
SO BIOCHEMISTRY, (1993 Oct 5) 32 (39) 10489-96.
Journal code: 0370623. ISSN: 0006-2960.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199311
ED Entered STN: 19940117
Last Updated on STN: 19990129
Entered Medline: 19931109
AB The ability of various polymerases to catalyze the template-directed

formation of a base pair between isoguanine (**iso-G**) and **isocytosine** (**iso-C**) in duplex oligonucleotides has been investigated. A new procedure was developed for preparing derivatives of deoxyisoguanosine suitable for incorporation into DNA using an automated DNA synthesizer. **T7 RNA polymerase**, **AMV reverse transcriptase**, and the Klenow fragment of DNA polymerase all incorporated **iso-G** opposite **iso-C** in a template. **T4 DNA polymerase** did not. Several polymerases also incorporated **iso-G** opposite T, presumably through pairing with a minor tautomeric form of **iso-G** complementary to T. In a template, **iso-G** directs the incorporation of both **iso-C** and T when Klenow fragment is the catalyst and only U when **T7 RNA polymerase** is the catalyst. Further, derivatives of **iso-C** were found to undergo significant amounts of deamination under alkaline conditions used for base deprotection after automated oligonucleotide synthesis. Both the deamination reaction of **iso-C** and the ambivalent tautomeric forms of **iso-G** make it unlikely that the (**iso-C**).(**iso-G**) base pair was a part of information storage molecules also containing the A.T and G.C base pairs found in primitive forms of life that emerged on planet earth several billion years ago. Nevertheless, the extra letters in the genetic alphabet can serve useful roles in a contemporary laboratory setting.

L2 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2002 ACS
AN 1993:621015 CAPLUS
DN 119:221015
TI Site-specific enzymic incorporation of an unnatural base, N6-(6-aminohexyl)**isoguanosine**, into RNA
AU Tor, Yitzhak; Dervan, Peter B.
CS Beckman Inst., California Inst. Technol., Pasadena, CA, 91125, USA
SO Journal of the American Chemical Society (1993), 115(11), 4461-7
CODEN: JACSAT; ISSN: 0002-7863
DT Journal
LA English
AB An efficient enzymic method is described for the sequence-specific incorporation of a functionalizable modified base into RNA mols. A deoxy-5-methylisocytidine (dMeisoC) in the DNA template directs the **T7 RNA polymerase** incorporation of N6-(6-aminohexyl)**isoguanosine** (6-AH-**isoG**) into the transcribed RNA product. The misincorporation of isoGTP derivs. opposite T is eliminated in the presence of ATP, and the misincorporation of A opposite dMeisoC is negligible in the presence of isoGTP derivs. The isolated yield of RNA products using modified templates is approx. 50% that for reactions using natural templates. A posttranscriptional modification of the reactive primary amino group with N-hydroxysuccinimide-activated biotin or the dianhydride of EDTA affords site-specifically modified RNA sequences suitable for further studies. This method for the generation of RNA mols. contg. a primary amine suitable for posttranscription modification should be useful for mapping the structure of folded RNA polymers and RNA-protein complexes by affinity cleavage and affinity labeling.

L2 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2002 ACS
AN 1989:569541 CAPLUS
DN 111:169541
TI Enzymatic incorporation of a new base pair into DNA and RNA
AU Switzer, Christopher; Moroney, Simon E.; Benner, Steven A.
CS Lab. Org. Chem., Swiss Fed. Inst. Technol., Zurich, 8092, Switz.
SO Journal of the American Chemical Society (1989), 111(21), 8322-3
CODEN: JACSAT; ISSN: 0002-7863
DT Journal

LA English

AB The Klenow fragment of DNA polymerase I (Escherichia coli) and phage **T7 RNA polymerase** were found to direct the incorporation of **isoguanosine** (**iso-G**) into an oligonucleotide opposite **isocytidine** (**iso-C**). Further, expts. were carried out with the Klenow enzyme to det. the specificity with which the new bases pair. On the basis of these expts., it was detd. that essentially no deoxyguanosine or deoxyadenosine was incorporated opposite d-**iso-C**, and that whereas d-**iso-G** showed undesired pairing with deoxycytidine. Due to the specificity obsd. in the enzymic incorporation of d-**iso-G** into DNA, it was concluded that these 2 mols. form a base-pair with a H-bonding pattern distinct from those occurring in the natural A-T(U) and G-C pairs.

=>